

## **Amendments to the Claims:**

This following listing of claims will replace all prior versions, and listings, of claims in the application.

## **Listing of Claims:**

Claim 1 (currently amended): A receiver transponder to be used in an optical add and drop node connected in a two-fiber network, comprising:

first and second optoelectric converters for converting received optical signals to electric signals and each having an optical input terminal and an output terminal, the first optoelectric converter having its optical input terminal connected to an optical fiber carrying light signals from a first direction for receiving the light signals and for converting them to electric signals on a first output terminal and the second optoelectric converter having its optical input terminal connected to an optical fiber carrying light signals from a second direction opposite the first direction for receiving the light signals and for converting them to electric signals on a second output terminal, each optoelectric converter generating an output signal carrying light signal power information and a supervisory channel on a monitor output terminal different from the output terminal of the optoelectric converter; ~~and~~

an electronic switch having two signal input terminals, a signal output terminal and a control input terminal, each of the two optoelectric converters connected with the first and second output terminals respectively to one of the two signal input terminals of the electronic switch, a signal on the control input terminal controlling the electronic switch to select one of the signal input terminals from which a signal existing on the selected one of the signal input terminals is transferred to the signal output terminal of the electronic switch, whereby the direction from which information on a channel terminated in the optical add and drop node is to be received can be chosen;

an electronic reshaping circuit having an input terminal and an output terminal, the input terminal connected to the signal output terminal of the electronic switch for reshaping a signal output from the electronic switch; wherein the electronic reshaping circuit is also arranged to clean the supervisory channel from the signal output from the electronic switch.

Claim 2 (canceled)

Claim 3 (canceled)

Claim 4 (currently amended): A receiver transponder to be used in an optical add and drop node connected in a two-fiber network, comprising:

first and second optoelectric converters for converting received optical signals to electric signals and each having an optical input terminal and an output terminal, the first optoelectric converter having its optical input terminal connected to an optical fiber carrying light signals from a first direction for receiving the light signals and for converting them to electric signals on a first output terminal and the second optoelectric converter having its optical input terminal connected to an optical fiber carrying light signals from a second direction opposite the first direction for receiving the light signals and for converting them to electric signals on a second output terminal, each optoelectric converter generating an output signal carrying light signal power information and a supervisory channel on a monitor output terminal different from the output terminal of the optoelectric converter; and

an electronic switch having two signal input terminals, a signal output terminal and a control input terminal, each of the two optoelectric converters connected with the first and second output terminals respectively to one of the two signal input terminals of the electronic switch, a signal on the control input terminal controlling the electronic switch to select one of the signal input terminals from which a signal existing on the selected one of the signal input terminals is transferred to the signal output terminal of the electronic switch, whereby the direction from which information on a channel terminated in the optical add and drop node is to be received can be chosen; and

an electronic reshaping circuit having an input terminal and an output terminal, the input terminal connected to the signal output terminal of the electronic switch for reshaping a signal output from the electronic switch, A receiver transponder according to claim 2 wherein the electronic reshaping circuit is also arranged to give a signal output from the electronic reshaping circuit on its output terminal a predetermined electric power.

Claim 5 (currently amended): A receiver transponder to be used in an optical add and drop node connected in a two-fiber network, comprising:

first and second optoelectric converters for converting received optical signals to electric signals and each having an optical input terminal and an output terminal, the first optoelectric

converter having its optical input terminal connected to an optical fiber carrying light signals from a first direction for receiving the light signals and for converting them to electric signals on a first output terminal and the second optoelectric converter having its optical input terminal connected to an optical fiber carrying light signals from a second direction opposite the first direction for receiving the light signals and for converting them to electric signals on a second output terminal, each optoelectric converter generating an output signal carrying light signal power information and a supervisory channel on a monitor output terminal different from the output terminal of the optoelectric converter;

an electronic switch having two signal input terminals, a signal output terminal and a control input terminal, each of the two optoelectric converters connected with the first and second output terminals respectively to one of the two signal input terminals of the electronic switch, a signal on the control input terminal controlling the electronic switch to select one of the signal input terminals from which a signal existing on the selected one of the signal input terminals is transferred to the signal output terminal of the electronic switch, whereby the direction from which information on a channel terminated in the optical add and drop node is to be received can be chosen;

an electronic reshaping circuit having an input terminal and an output terminal, the input terminal connected to the signal output terminal of the electronic switch for reshaping a signal output from the electronic switch; and

A receiver transponder according to claim 2 further comprising a laser having an input terminal, the output terminal of the electronic reshaping circuit connected to the input terminal of the laser, the laser producing a light signal provided to a client layer.

Claim 6 (currently amended): A receiver transponder to be used in an optical add and drop node connected in a two-fiber network, comprising:

first and second optoelectric converters for converting received optical signals to electric signals and each having an optical input terminal and an output terminal, the first optoelectric converter having its optical input terminal connected to an optical fiber carrying light signals from a first direction for receiving the light signals and for converting them to electric signals on a first output terminal and the second optoelectric converter having its optical input terminal connected to an optical fiber carrying light signals from a second direction opposite the first direction for receiving the light signals and for converting them to electric signals on a second

output terminal, each optoelectric converter generating an output signal carrying light signal power information and a supervisory channel on a monitor output terminal different from the output terminal of the optoelectric converter;

an electronic switch having two signal input terminals, a signal output terminal and a control input terminal, each of the two optoelectric converters connected with the first and second output terminals respectively to one of the two signal input terminals of the electronic switch, a signal on the control input terminal controlling the electronic switch to select one of the signal input terminals from which a signal existing on the selected one of the signal input terminals is transferred to the signal output terminal of the electronic switch, whereby the direction from which information on a channel terminated in the optical add and drop node is to be received can be chosen; and

an electronic reshaping circuit having an input terminal and an output terminal, the input terminal connected to the signal output terminal of the electronic switch for reshaping a signal output from the electronic switch, ~~A receiver transponder according to claim 2~~ wherein the output terminal of the electronic reshaping circuit is connected to an input terminal of a client layer.

Claim 7 (currently amended): A protected two-fiber network comprising:

optical add and drop nodes connected by links to form a ring,

first optical fibers connected to form a first ring and transmitting light signals in a first direction and second optical fibers connected to form a second ring parallel to the first ring and transmitting light signals in a second direction opposite the first direction,

each optical add and drop node comprising a receiver transponder and a switch for choosing a direction from which information on a channel terminated in the considered optical add and drop node is to be received in the node, characterized in that at least one of the receiver transponders comprises two optoelectric converters for converting received optical signals to electric signals,

a first one of the two optoelectric converters having an optical input terminal, an output terminal and a monitor output terminal, the optical input terminal connected to one of the first optical fibers carrying light signals in the first direction, ~~and~~

a second one of the two optoelectric converters having an optical input terminal, an output terminal and a monitor output terminal, the optical input terminal connected to one of the

second optical fibers carrying light signals in the second direction, and that the switch is an electronic switch and has two signal input terminals, a signal output terminal and a control input terminal,

the two optoelectric converters each generating an output signal carrying light signal power information and a supervisory channel on their monitor output terminals and having their output terminals carrying the electric signals converted from the received optical signals connected to the two signal input terminals of the electronic switch, a signal on the control input terminal controlling the electronic switch to select one of the signal input terminals from which a signal existing thereon is transferred to the signal output terminal of the electronic switch; and an electronic reshaping circuit having an input terminal and an output terminal, the input terminal connected to the output terminal of the electronic switch for receiving and reshaping a signal output from the electronic switch, wherein the reshaping circuit is also arranged to clean the supervisory channel from the signal output from the electronic switch.

Claim 8 (canceled)

Claim 9 (canceled)

Claim 10 (currently amended): A protected two-fiber network comprising:  
optical add and drop nodes connected by links to form a ring,  
first optical fibers connected to form a first ring and transmitting light signals in a first direction and second optical fibers connected to form a second ring parallel to the first ring and transmitting light signals in a second direction opposite the first direction,  
each optical add and drop node comprising a receiver transponder and a switch for choosing a direction from which information on a channel terminated in the considered optical add and drop node is to be received in the node, characterized in that at least one of the receiver transponders comprises two optoelectric converters for converting received optical signals to electric signals,  
a first one of the two optoelectric converters having an optical input terminal, an output terminal and a monitor output terminal, the optical input terminal connected to one of the first optical fibers carrying light signals in the first direction,

a second one of the two optoelectric converters having an optical input terminal, an output terminal and a monitor output terminal, the optical input terminal connected to one of the second optical fibers carrying light signals in the second direction, and that the switch is an electronic switch and has two signal input terminals, a signal output terminal and a control input terminal,

the two optoelectric converters each generating an output signal carrying light signal power information and a supervisory channel on their monitor output terminals and having their output terminals carrying the electric signals converted from the received optical signals connected to the two signal input terminals of the electronic switch, a signal on the control input terminal controlling the electronic switch to select one of the signal input terminals from which a signal existing thereon is transferred to the signal output terminal of the electronic switch; and

an electronic reshaping circuit having an input terminal and an output terminal, the input terminal connected to the output terminal of the electronic switch for receiving and reshaping a signal output from the electronic switch, ~~A protected network according to claim 8~~ wherein the reshaping circuit is also arranged to provide a reshaped signal output on its output terminal having a predetermined power.

Claim 11 (currently amended): A protected two-fiber network comprising:

optical add and drop nodes connected by links to form a ring,

first optical fibers connected to form a first ring and transmitting light signals in a first direction and second optical fibers connected to form a second ring parallel to the first ring and transmitting light signals in a second direction opposite the first direction,

each optical add and drop node comprising a receiver transponder and a switch for choosing a direction from which information on a channel terminated in the considered optical add and drop node is to be received in the node, characterized in that at least one of the receiver transponders comprises two optoelectric converters for converting received optical signals to electric signals,

a first one of the two optoelectric converters having an optical input terminal, an output terminal and a monitor output terminal, the optical input terminal connected to one of the first optical fibers carrying light signals in the first direction,

a second one of the two optoelectric converters having an optical input terminal, an output terminal and a monitor output terminal, the optical input terminal connected to one of the

second optical fibers carrying light signals in the second direction, and that the switch is an electronic switch and has two signal input terminals, a signal output terminal and a control input terminal,

the two optoelectric converters each generating an output signal carrying light signal power information and a supervisory channel on their monitor output terminals and having their output terminals carrying the electric signals converted from the received optical signals connected to the two signal input terminals of the electronic switch, a signal on the control input terminal controlling the electronic switch to select one of the signal input terminals from which a signal existing thereon is transferred to the signal output terminal of the electronic switch;

an electronic reshaping circuit having an input terminal and an output terminal, the input terminal connected to the output terminal of the electronic switch for receiving and reshaping a signal output from the electronic switch; and

A protected network according to claim 8 further comprising a laser having an input terminal and an optical output terminal, the output terminal of the electronic reshaping circuit connected to the input terminal of the laser and the laser producing on its optical output terminal a light signal provided to a client layer.

Claim 12 (currently amended): A protected two-fiber network comprising:

optical add and drop nodes connected by links to form a ring,

first optical fibers connected to form a first ring and transmitting light signals in a first direction and second optical fibers connected to form a second ring parallel to the first ring and transmitting light signals in a second direction opposite the first direction,

each optical add and drop node comprising a receiver transponder and a switch for choosing a direction from which information on a channel terminated in the considered optical add and drop node is to be received in the node, characterized in that at least one of the receiver transponders comprises two optoelectric converters for converting received optical signals to electric signals,

a first one of the two optoelectric converters having an optical input terminal, an output terminal and a monitor output terminal, the optical input terminal connected to one of the first optical fibers carrying light signals in the first direction,

a second one of the two optoelectric converters having an optical input terminal, an output terminal and a monitor output terminal, the optical input terminal connected to one of the

second optical fibers carrying light signals in the second direction, and that the switch is an electronic switch and has two signal input terminals, a signal output terminal and a control input terminal,

the two optoelectric converters each generating an output signal carrying light signal power information and a supervisory channel on their monitor output terminals and having their output terminals carrying the electric signals converted from the received optical signals connected to the two signal input terminals of the electronic switch, a signal on the control input terminal controlling the electronic switch to select one of the signal input terminals from which a signal existing thereon is transferred to the signal output terminal of the electronic switch; and

an electronic reshaping circuit having an input terminal and an output terminal, the input terminal connected to the output terminal of the electronic switch for receiving and reshaping a signal output from the electronic switch, ~~A protected network according to claim 8~~ wherein the output terminal of the electronic reshaping circuit is connected to an input terminal of a client layer.